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Central Intelligence Agency

Washington, D.C. 20505

DIRECTORATE OF INTELLIGENCE

9 October 1987

India-US: High Technology Cooperation [redacted] 25X1

## Summary

Indian Prime Minister Gandhi's letter to President Reagan conveying New Delhi's decision to purchase a US supercomputer, his hope for the cooperation agreement on the Light Combat Aircraft (LCA), and thanks for Washington's help in arranging an early launch of India's communications satellite suggests that he is prepared to expand bilateral cooperation in high technology areas. Gandhi has won support for his efforts to improve bilateral relations from business and scientific elites and many of the urban middle class who share his enthusiasm for advanced technology. He recently appointed Sam Petroda, a US-trained Indian-born scientist as a cabinet-level adviser on technology missions. Gandhi has lowered his public profile on the acquisition of advanced technology, however, as his political opponents increasingly challenge his efforts. They claim he is pursuing his interests at the expense of Indians suffering in the drought's aftermath and living in rural poverty. [redacted] 25X1

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This memorandum was prepared by [redacted] 25X1
Office of Near Eastern and South Asian Analysis and [redacted] 25X1
the Office of Scientific and Weapons Research at the request of the National Security Council. Information as of 8 October 1987 was used in its preparation. Comments and queries are welcome and may be directed to the Chief, South Asia Division, NESA [redacted] 25X1

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Differences over the emphasis given to transferring versus protecting US technology will dog efforts to cooperate. New Delhi believes that Washington's stringent interpretation of the Memorandum Of Understanding (MOU) frustrates India's national ambitions. US concerns about the potential dual-use and diversion of sophisticated technology may constrict the flow of US technology and prompt New Delhi to accelerate purchases of alternative technology from competitors, especially Japanese firms, who offer it at lower prices and with fewer restrictions. New Delhi has been diplomatic, but less than enthusiastic about Moscow's profers in the high technology area.

Gandhi probably will be looking for an indication that Washington is as enthusiastic as it was in 1985 about the future of Indo-US cooperation in advanced technology. He is aware of the disagreements in Washington over India's intentions and ability to protect sensitive technology. New Delhi will continue to press the United States for prompt release and favorable financial terms for advanced avionics technology for its LCA program. The Indians probably will buy another US supercomputer and almost certainly will begin discussions during 1988 on a more advanced model of the supercomputer presently denied under the US-Japan agreement. We expect New Delhi will continue to shop in the United States for the specialty items they need for their space program, while testing US flexibility under the Missile Technology Control Regime (MTCR).

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The MOU and Technology Diversion

Gandhi believes that the Memorandum of Understanding (MOU) is a key element in New Delhi's plans for technological progress and economic development over the next decade. He repeatedly has said that rapid improvement in productivity requires imported technology.

Both the Indian government and private industry are concerned about protecting Western COCOM-controlled technology and equipment to retain access to future developments. During 1987, New Delhi has warned US

officials not to sell to certain Indian firms it suspects of working with the Soviets. Even with the best of intentions, however, the Indians cannot prevent Soviet collection efforts or diversion.

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Light Combat Aircraft Mission

We believe Gandhi has lowered the political barrier on the Indian side to defense cooperation with the United States with his pledge to sign the agreement on the Light Combat Aircraft program (LCA). He has shown a willingness to face down the leftists within his administration who raise questions about the reliability of the United States as a supplier and about US intentions to use high technology as an entree for influence over New Delhi. Nonetheless, those Indian officials in the defense establishment who support Gandhi's decision are apprehensive that Washington's reluctance to release technology will stymie New Delhi's efforts to work with US firms offering hardware and other technological support.

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New Delhi is beginning to make headway toward producing the LCA which is intended to modernize India's aircraft industry, provide its Air Force with a near state-of-the-art fighter, and reduce dependence on Soviet combat aircraft. New Delhi has purchased 11 General Electric F404J engines for use in the prototype construction and testing of the LCA and has a long shopping list for US subsystems.

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We expect Gandhi to continue to shop around for military technology and equipment for the LCA. New Delhi has awarded the design contract this year to Dassault of France and is shopping in Western Europe for advanced technology. It has not sought assistance from the Soviets for the LCA program.

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Gandhi will also attempt to balance India's ambitions to become self-sufficient militarily with its need to keep up with Chinese and

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Pakistani weapons acquisitions. In the case of the LCA, Gandhi knows he is undertaking a difficult task. We believe there is a possibility New Delhi may in the early 1990s decide to shelve the LCA because of increasing costs and time delays. It has the option to coproduce the MiG-29 or the Mirage 2000 as an alternative.

Computers

Gandhi's decision to buy the US supercomputer probably gives US firms an edge in the Indian computer market. New Delhi is banking that imports of US computers will spur domestic industrial development and improve its ability to compete in international markets. Immediately after the signing of the MOU, there was a flurry of activity between New Delhi and a number of US companies for coproduction agreements. Negotiations on several deals hamstrung by Indian bureaucratic footdragging and US licensing requirements are now likely to bear fruit.

India is interested in acquiring US superminicomputers, such as Digital Equipment Corporation's VAX, to upgrade its computer-aided design and manufacturing capabilities, and Cray supercomputers to satisfy its high-speed computing needs. Control Data Corporation negotiated a $500 million deal for production of its medium sized mainframe computers in India. Digital Equipment Corporation is discussing a deal for Indian production of its MicroVAX II.

Despite the current optimism, New Delhi recognizes that its access to US computer technology will continue to be limited by US licensing requirements. The Indians therefore are actively talking with Japanese and Western European firms for everything from supercomputers to personal computers as an alternative to dealing with the United States.

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## Looking to US-Trained Indians

Gandhi is having some success persuading expatriate Indians living in the United States to lend their skills and capital to India's modernization drive. Gandhi recently named Sam Petroda an Indian-born US-trained scientist as adviser on technology missions. Petroda, who will give up his US citizenship to serve as a member of the Cabinet, has extensive business holdings in the Chicago area. Diplomatic reporting indicates Indians from the United States are trying to enter the personal computer business in India with mixed results. According to these reports, they are optimistic about the long-term payoffs, but are finding that a good measure of patience and persistence is required to launch a new venture in India especially in areas away from Bombay and New Delhi. They face bureaucratic delays, redtape, and occasionally outright opposition from state and national officials.

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Outlook

New Delhi and Washington will continue to differ over the issues of access to and diversion of advanced US military, computer, and space technology--with Gandhi pressing for wider access, prompt clearances, and favorable financial terms. We expect New Delhi will look to US firms for advanced avionics technology for its LCA program and is likely to continue negotiations for the purchase of at least two additional supercomputers. The Indians almost certainly will begin discussions during 1988 to purchase advanced dual processor supercomputers, presently denied under the US-Japan agreement. We expect the Indians to shop in the United States for the specialty items they need for their space program--despite the new obstacles posed for New Delhi by the MCTR--because US firms can compete on price with Japan and Western Europe.

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We believe New Delhi will turn to Western Europe and Japan rather than the USSR for most of the advanced technology denied by the United States. Gandhi will continue discussions with Moscow on a series of "high tech" deals to placate leftist domestic political interests, but he will move cautiously to avoid alienating other constituents with technical training or business interests who favor Western rather than Soviet technology. Despite India's efforts to curtail diversion of COCOM-controlled technology, we believe India's capacity to track foreign and domestic diverters will continue to lag behind the ingenuity of the individuals or private firms operating in India.

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